Fifth Annual Conference on Carbon Capture & Sequestration

Steps Toward Deployment

Terrestrial Sequestration (3)

Institutional Development for Terrestrial Carbon Sequestration: Canada's Offset System

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May 8-11, 2006 • Hilton Alexandria Mark Center • Alexandria, Virginia

OUTLINE OF PRESENTATION

- Objectives
- Domestic Emission Trading (DET) System
- Quantification Protocol
- Carbon Credits
- Conclusions

OBJECTIVES

Provide a Brief Overview of the Canadian Carbon Trading System

- Demand and Supply in the Domestic Emission Trading (DET) System
- Review of the Quantification Protocol Development for Carbon Sequestration in Agriculture
- Carbon Credit Selection – Permanent Credits versus Temporary Credits

DET – DEMAND FOR CREDITS

Large Final Emitters (LFE)

- Emission Reductions by 45 MT per year
- Intensity targets – Regulatory system
- True up every year
- LFE -- Monitoring, Verification, Registration

Federal Government

- Carbon Fund

Others

- Citizens, Environmental Groups, etc.

DET – SUPPLY OF CREDITS

Large Final Emitters (LFE)

- Those who surpass their intensity target

Offset System

- Other industrial sectors –supply carbon removals or reductions – non- covered
- Ex. Agriculture, forestry, landfills

Other Kyoto Mechanism

- CDM and JI

QUANTIFICATION OF SINK PROJECTS

Project Process:

- Project document - validation, registration, verification, certification and issuance

Quantification

- Stock Method – quantifies the amount of carbon at both the baseline and the project
- Flow Method- if there are fewer emissions with the project than the baseline or if removals are higher with the project than the baseline
- Quantification must include removals and reductions as well as reversals

QUANTIFICATION PROTOCOLS

Transaction Costs of Measurement

(1) Default Approach

- Designed to achieve accuracy at the aggregate level
- Credits = No. of hectares multiplied by the removal factor
- Removal factor will continually be adjusted
- No Historical data needed – early adopters

QUANTIFICATION PROTOCOLS (Con't)

(2) Customized Approach

- Must provide historical information – not used prior to January 1, 2000
- Approach must be validated by the Program Authority
- Satisfy the requirements of ISO 14064

CARBON CREDITS

- Offset systems includes both carbon reductions and carbon removals
  - Carbon Reductions – Permanent
  - Carbon Removal – Non-Permanent (no-till agriculture)
- Credits are allocated ex-post
- Credit unit is a tonne of CO_{2e}

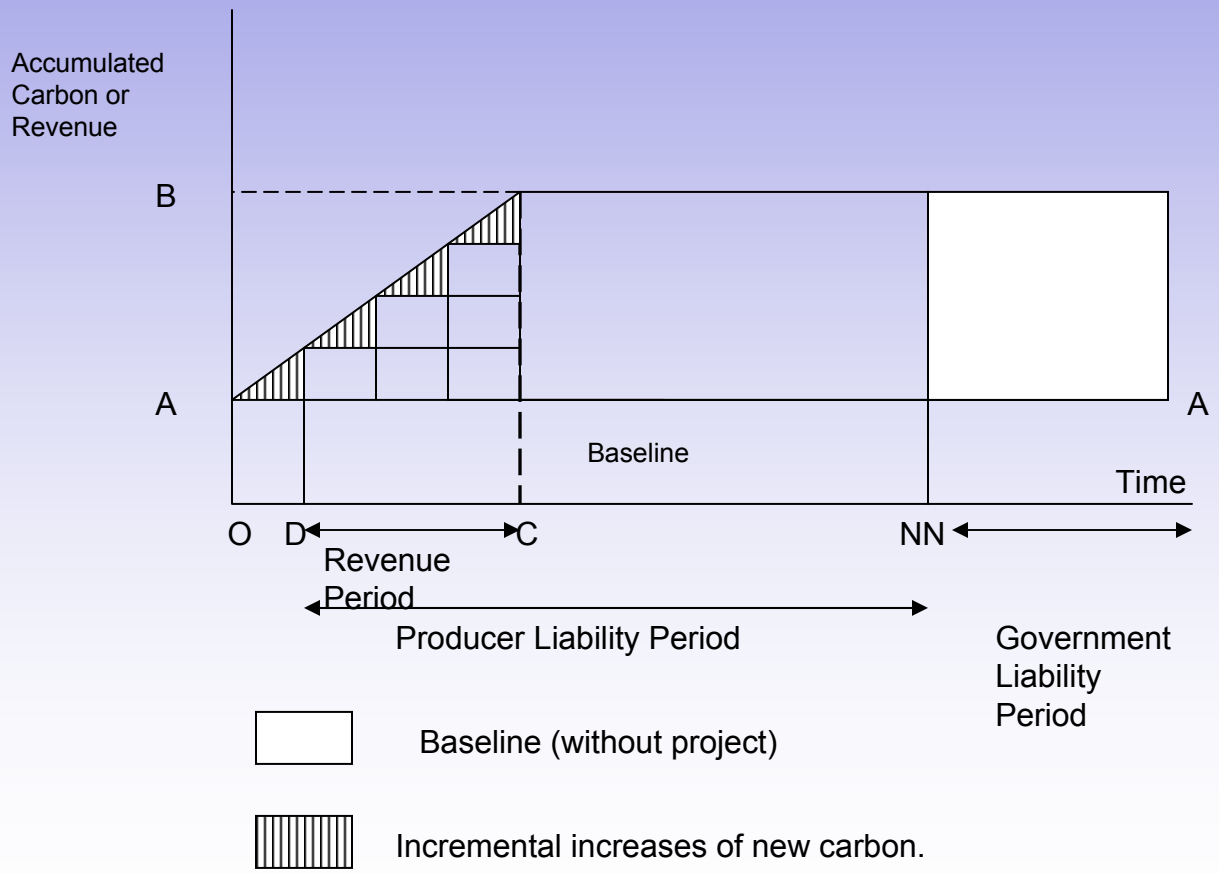
Non-Permanency Issue (Sequestration)

- Non-permanency is accounted for through the allocation of different types of credits
- Two types of credits:
  - (1) Permanent Credit
  - (2) Temporary Credit
- Difference between the types of credits is the property rights that are allocated

PERMANENT CREDIT (PC)

- A permanent offset credit contains 3 distinct periods: (1) revenue period, (2) producer liability period, and (3) a government liability period.
- PC projects would have to satisfy certain project period constraints – length of revenue period and length of liability period.
- A PC would be valued at the same price as permanent reduction – i.e. permanent credit

PRODUCER REVENUE, LIABILITY, AND GOVERNMENT LIABILITY



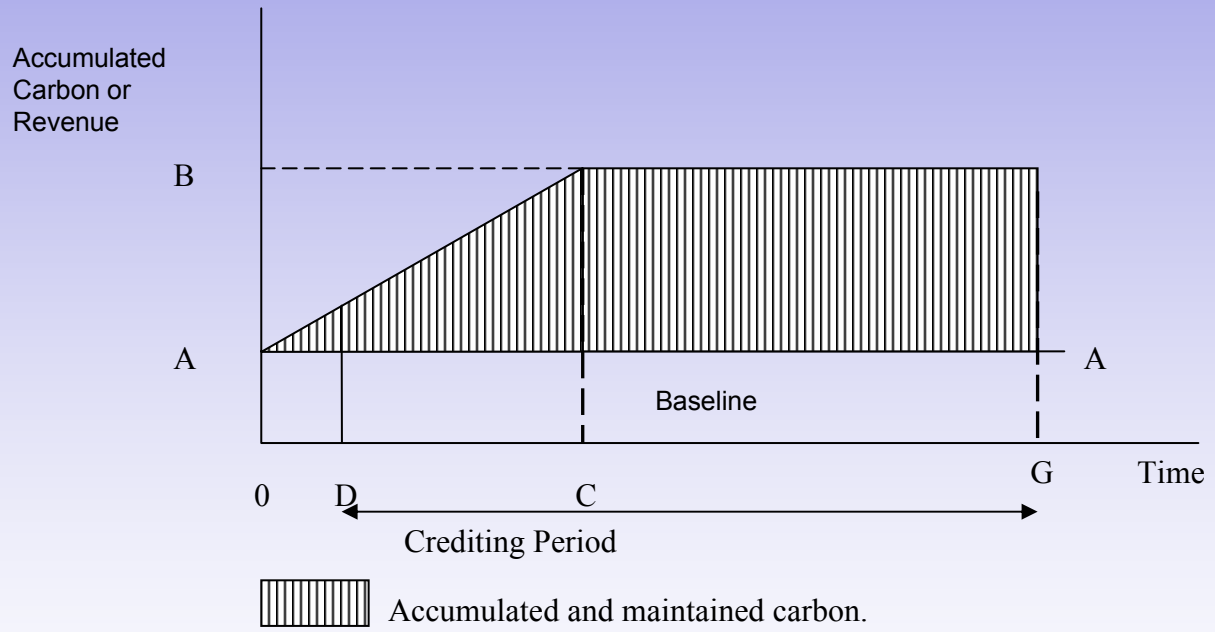
REVERSAL OF A PERMANENT CREDIT

- If there is a reversal of the carbon from the sink during the liability period the producer must replace the lost carbon with other carbon credits -- go to the market
- If the reversal occurs after the producer liability period, then the government is liable for carbon- i.e. it will be accounted for in the National Inventory

TEMPORARY CREDIT

- Represents one tonne of CO_{2e} that has been stored for one year.
- Would be issued ex-post
- Would provide a LFE a 1 year deferment
- No producer liability
- Allows producers to sell stored carbon
- No government liability

PRODUCER REVENUE STREAM FROM A TEMPORARY CREDIT



CONCLUSION

- Carbon trading institution can be designed to include carbon sequestration activities
- Quantification protocols can be designed to take into account early adopters and decrease transaction costs
- Different types of credits (PC or TC) can address the non-permanent issue of carbon sequestration